

CLAIMS:

1. An impact-absorbing insert for a protective case designed for containing and protecting a fragile article wherein the insert comprises one or more impact-absorbing portion
5 and one or more tethered plug for insertion into an access tunnel contained in a mating user defined enclosure, wherein said access tunnel provides access to features of the article without opening the protective case.
2. A protective case for a fragile article comprising the impact-absorbing insert and user defined enclosure of Claim 1 wherein the protective case provides impact protection and,
10 when the access tunnel is plugged, a water tight and dust tight seal for the fragile article.
3. The impact-absorbing insert of Claim 1 wherein the fragile article is a portable electronic device.
4. The impact-absorbing insert of Claim 3 wherein the portable electronic device is a
35 mm camera, digital camera, instrumentation, a tool, a personal data assistant, a web
15 tablet, a cell phone, a hand held computer, a pager, a gaming device, an electronic music player, a voice recorder, a global positioning system.
5. The protective case of Claim 2 wherein the fragile article is a portable electronic device.
6. The protective case of Claim 5 wherein the portable electronic device is a 35 mm
20 camera, digital camera, instrumentation, a tool, a personal data assistant, a web tablet, a cell phone, a hand held computer, a pager, a gaming device, an electronic music player, a voice recorder, a global positioning system.
7. The impact-absorbing insert of Claim 1 further comprises an integral energy absorbing web and rib feature that compresses or deforms to absorb impact loading, a
25 molded-in button, a rib, an aesthetics feature, an engagement rib, an interference tolerance to enable positive fit and function for the life of the article, or combinations thereof.
8. The protective case of Claim 2 containing a portable electronic device passes the MIL-STD-810F, Table 516.5-VI Transit Drop Test at a minimum height of 24 inches.
9. The impact-absorbing insert of Claim 1 comprises a molded elastomeric material,
30 having a hardness between about Shore 40 A and about Shore 65 D.
10. The Impact-absorbing insert of Claim 1 comprising thermoplastic polyurethane.
11. A method to retain the impact-absorbing insert of Claim 1 in a user defined enclosure by designing attachment features which produce a tight fit between the impact-absorbing insert with the user defined enclosure.
- 35 12. The method of Claim 11 wherein the design features comprise molded fingers and mating grooves, wherein the fingers are on the impact-absorbing insert and the grooves are on the user defined enclosure, the fingers are on the user defined enclosure and the grooves are on the impact-absorbing insert, or a combination thereof.